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ABSTRACT

Educators, business and government leaders in the public sector are attempting to provide a kind of comprehensive, effective education for all students by designing a new approach to education which will: (1) eliminate the educationally embarrassing general education track which leads students into an academic and vocational dead end; (2) improve the connection between school and work in this country, which has the worst school-to-industry transition program of any industrialized nation; (3) integrate academic and vocational curriculum to enhance the relevance of course content to work; and (4) make school more relevant, caring, responsive, and student-centered for the large number of students not academically gifted or college bound. The concept of Enhanced Vocational Education (EVE), which combines these ideas with the findings of a 3-year project funded in 10 demonstration sites throughout the United States by the U.S. Department of Education, Office of Vocational and Adult Education, is the focus of this monograph. EVE is an expanded vision of vocational education that combines proven vocational education and dropout prevention practices. This document outlines strategies for developing a district-wide dropout prevention program based on the EVE concept. A suggested EVE curriculum includes content in the following four areas: applied academics, vocational-technical education, employability skills training, and life-development skills training. The following elements of a comprehensive educational support system are described: instructional strategies, counseling, student management and discipline, flexible scheduling, small class size, transportation, community collaboration, and parental and family involvement. A section on integrating program components into district operations provides specific suggestions related to the following: district commitment and support; program location and organization; recruitment, selection and orientation of students; and staff selection and development. The experience of the school district of Pittsburgh in institutionalizing EVE elements is discussed. (MN)

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A Series of
Solutions and Strategies

NATIONAL DROPOUT PREVENTION CENTER

September 1993 Number 7

Enhanced Vocational Education: Developing a District-Wide Dropout Prevention Program

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by
John V. "Dick" Hamby and Fred A. Monaco

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Introduction

The public school system in the United States is under tremendous pressure to improve the quality of education for all students, especially those from diverse backgrounds who do not have much success with traditional approaches and who are at risk of dropping out before graduation. Reformers are calling for fundamental changes in an educational paradigm developed during the Industrial Revolution. Although appropriate in guiding education for earlier generations, this paradigm is no longer useful for our needs as the United States attempts to maintain its place in an extremely competitive world community.

Success in the future, both for individuals and for this nation, demands problem solvers, critical thinkers, and decision makers who are responsible for multiple functions, are able to communicate effectively, and can continue to learn on their own after they leave school. The problem we will face in the future will not be finding jobs for people, but finding people for the new jobs which will then exist. Education must become outcome-based through performance-based curricula which may be characterized as a "living report card."

Educators and leaders in business, government, and the public sector are attempting to provide this kind of comprehensive, effective education for all students by designing a new approach to education which will:

(1) eliminate the educationally-embarrassing general education track which leads students into an academic and vocational dead end;

(2) improve the connection between school and work in this country, which has the worst school-to-industry transition program of any industrialized nation;

(3) integrate academic and vocational curricula to enhance the relevance of course content to work;

(4) make school more relevant, caring, responsive, and student-centered for the large number of students not academically gifted or college bound.

Enhanced Vocational Education (EVE) is a concept which combines these ideas with the findings of a three-year project funded in ten demonstration sites throughout the country by the United States Department of Education, Office of Vocational and Adult Education. EVE represents an expanded vision of vocational education that actively seeks change in curriculum, methods, and the students it serves. This approach is a combination of the best aspects of vocational education and proven dropout prevention practices. It offers hope to many students who often view the future with despair.

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Conceptual Framework

Enhanced Vocational Education is not a program; rather, it is a "framework of essentials" upon which to build a program within the local school district. This framework has three parts: (1) a relevant and comprehensive curriculum; (2) an educational support system to bring students into contact with that curriculum and to maintain contact until graduation; and (3) a plan to integrate the curriculum and support system into the regular operations of the school district.

This framework seems so obviously simple that we might overlook its power to shape our thinking and keep us on track in developing an EVE program. It is important to draw a distinction between the curriculum and the educational support system because we educators often confuse the two concepts. This confusion will hinder program development if we fail to recognize the difference between what we want students to learn and ways we arrange for them to learn it.

Curriculum is the "what" of schooling—what we want students to know, be able to do, and value. The educational support system, on the other hand, is the "how" of schooling—how we help students become engaged in the curriculum so they will know, be able to do, and value. The curriculum is the destination; the support system is the transportation. The curriculum remains fairly constant and stable over time; the support system has tremendous flexibility for individualization.

Furthermore, our view of these two elements is often too narrow. We see the curriculum as either academics or vocational education. We think of the educational support system basically in terms of instruction, with a little counseling thrown in on the side. These views must expand if we are to accommodate the needs of diverse student populations and prepare them for the changing demands of the future.

Finally, we must understand that all these elements must be inextricably bound into a total program. A comprehensive, relevant curriculum is necessary. However, it is not sufficient to keep students in school and make them successful. The best curriculum is worthless in the absence of an educational support system that brings students into contact with that curriculum and ensures that they become engaged with it in a meaningful and enduring way. This requires, then, that the program be institutionalized. An EVE curriculum and support system must become a basic part of district operations with continuing funding and administrative support. Such a program cannot survive as a special project supported with "soft" money. Too many programs have failed for this reason.

The remainder of this report will present details of these three essential elements of EVE, and then describe specific examples of many of these elements operating in one school district's program for at-risk students.

A Suggested Curriculum

An EVE curriculum is relevant to students and to the needs of the community. It provides personal development as well as necessary academic and technical skills for students, preparing them for work and a personal life. A comprehensive, relevant EVE curriculum includes content in at least the following four areas: applied academics, vocational/technical education, employability skills, and life-development skills.

Applied Academics

A strong foundation in content, basic skills, and higher-order thinking skills is necessary for entry into work or postsecondary education. An adequate academic program should include the following:

- communicating (reading, writing, listening, and speaking, as well as computer literacy);
- computing (mathematics);
- problem solving (creative thinking, decision making, reasoning, and learning how to learn);
- group living and economic self-sufficiency (history, geography, economics, citizenship, religion, art, and music);
- understanding relationships among groups (interpersonal, intercultural, and international);
- understanding the natural world (science);
- maintaining personal wellness (health and physical education).

Vocational/Technical Education

To meet the needs and interests of a diverse group of students, schools should provide choices

from among trade and industrial education, business education, agriculture, home economics, marketing education, technical education, technology education, and health occupations.

Other aspects of a comprehensive vocational education curriculum are: (1) vocational-technical courses that count in the diploma track and/or lead to certification in an occupational area; (2) on-the-job training or simulations; and (3) vocational education preparation and career exploration for middle school or early high school students or for students who are at risk but not ready to enter a vocational-technical program on a full-time basis.

Employability Skills Training

To be successful, students need help in developing personal, social, and professional characteristics and habits required to seek, obtain, maintain, advance in, and leave a job and find another. Schools must work in concert with employers and business leaders to provide an effective program of employability skills training that includes activities based on general workplace requirements and student needs. In a comprehensive curriculum, there are regularly scheduled, required, credit-bearing employability skills training activities that are integral parts of the program, not merely electives or add-ons.

The following are just a few of a multitude of specific employability skills: (1) searching for a job, completing an application, and preparing for an interview; (2) coming to work on time and following schedules; (3) exhibiting initiative, industriousness, and motivation; (4) knowing and comprehending work-related vocabulary; (5) participating as a team member; and (6) working with people from diverse backgrounds.

Life-Development Skills Training

Students need help in dealing with personal and social issues of daily living—in school and out, in the present and in the future.

Regularly scheduled life-development skills experiences might include: (1) developing a well-defined personal identity; (2) coping with different feelings and emotions and dealing positively with values conflicts; (3) making wise choices; (4) showing understanding, friendliness, adaptability, empathy, and politeness in group settings; and (5) doing accurate self-assessment, setting personal goals, checking progress, and exhibiting self-control.

An Educational Support System

An adequate curriculum is only half the battle in developing an enhanced vocational education program. A potentially excellent curriculum must be organized and delivered so that students come into contact with it and maintain that contact for a sufficient period of time. Without this organized and planned delivery system, a program's impact upon students will be seriously impaired.

The following are some elements of a comprehensive support system.

Instructional Strategies

One of the most well-documented findings is the strong relationship between the way the curriculum is delivered and success of students at risk. The wide variety of instructional strategies and the flexibility with which they are employed distinguish an enhanced vocational education program from more traditional approaches.

Some instructional approaches that are successful with students at risk include Computer Assisted Instruction (CAI); competency-based, individualized instruction; multimodality technology; modification of materials; mentoring; tutoring; on-the-job experiences; social activities; incentives; speakers; field trips; and cooperative learning.

Counseling

Counseling is a major way to ensure that students at risk maintain contact with the curriculum. It is the glue that holds the program together and allows students to stay connected to the school. Therefore, counseling must occur when and where students need it and go well beyond simple course planning and routine testing. It includes academic guidance, career awareness and planning, personal counseling, human service agency referral and coordination, and family support.

Students need counseling and guidance in at least the following areas: (1) educational and career planning; (2) personal competence and problem resolution; (3) identity, self-concept, and self-esteem development; and (4) social relations skill development.

As with instructional approaches, a wide range of counseling arrangements are needed with at-risk students including planned, regularly scheduled group counseling; planned or unplanned individual counseling; and spontaneous, crisis intervention.

Student Management and Discipline

Students at risk of dropping out of school often have a history of discipline problems including those with attendance, attitude, grades, depression, drug use, home conflicts, and many others. The following are suggested guidelines for student management and discipline:

- develop and distribute a clearly defined set of student management policies and procedures to staff, students, and parents;
- involve staff, students, and parents in development of policies and procedures;
- administer procedures in a fair, objective, and consistent manner;
- use behavioral contracts when appropriate;
- train staff to use counseling techniques, rather than punishment, to defuse routine conflict situations so everyone can get on with learning;
- when students must be removed from class, use an effective, supervised in-school suspension program rather than out-of-school suspension so students continue with learning;
- if a student must be removed from school, refer him or her to a social agency for follow-up.

Flexible Scheduling

Flexibility in scheduling is essential for students at risk, allowing them to come into contact with the curriculum at a variety of times and in a variety of locations that better fit their routines and learning styles. The school must take students when they enter the program—at any time during the year—and provide more individualization through greater use of technology, small classes, tutors, mentors, and family involvement, especially for serious cases like ESL and special education students.

Schedules may be made more flexible by providing: (1) classes before and after regular school hours, at night, and on Saturday; (2) a shortened school day; (3) access to adult education and/or community college programs; (4) open entry, open exit classes; (5) accelerated courses for students who are behind; and (6) summer school.

Small Class Size

There is a point of diminishing returns when the number of students becomes too large for the number of staff or the facilities or equipment available. The issue of smaller class size, however, does not always have to be couched in terms of reducing the student/teacher ratio. It can also be expressed in terms of increasing the number of student/teacher contacts. If "teacher" is broadly defined to mean any person who can help the student learn, then "teachers" can include tutors, mentors, peers, social service personnel, and parents. Such an approach does not require additional, professionally-prepared teachers or counselors. It does require, however, a program to recruit, train, and utilize paraprofessionals, volunteers, social agency staff, students, and parents to increase the learning contacts for the student.

Transportation

Transportation becomes an important consideration in programs for at-risk and disadvantaged students. If they do not get to school on a regular basis, they are not going to learn what the school provides. Transportation is a particular concern when components of programs are provided at more than one location during the day (e.g., the home school and a vocational center), when programs are located in rural communities, or when programs are offered to students with varying cultural backgrounds. These issues suggest that decision makers might be wise to place all programs and support services at a single site for several reasons. First, students need not spend a portion of their day traveling between schools. Second, it makes it easier to coordinate support services. Third, it relieves the stress on students with unique problems, such as ESL students and special education students, who are enrolled in the program. Finally, it enhances integration of the total curriculum since all staff are on the same campus.

Community Collaboration

The primary goal of school-community collaboration is to provide a bridge for students between the school and the real world. Learning and living become

connected in a meaningful way. School-community partnerships are extremely important in vocational education. Community partners benefit schools by (1) providing speakers, mentors, tutors, and teacher aides; (2) serving as members of advisory committees, curriculum committees, policy councils, and other groups; (3) assisting faculty and staff by keeping them up to date on skills and educational training required for various jobs; (4) providing part-time jobs and other work experiences for students and teachers; and (5) underwriting incentives, awards, and ceremonies that highlight student achievement.

Parental and Family Involvement

Although it is often difficult to get parents actively involved in programs dealing with educationally and economically disadvantaged students, such interest, support, and involvement can contribute to student success. Suggestions for involving parents and other family members include the following: (1) keep parents informed of the program's goals and activities through regular newsletters mailed to the home; (2) conduct monthly meetings where some phase of the program is highlighted and presented by students; (3) provide counseling and referral services for parents; (4) provide workshops to teach parents how to help their children with school work; and (5) hold meetings at places other than the school and at times when it is more convenient for parents.

Integration of Program Components into District Operations

District Commitment and Support

Commitment of the school district board and administration is necessary for success of an enhanced vocational education program. This commitment must be for the "long haul." The administration must take the program seriously and advocate system-wide support. The administration can manifest this commitment and support in a number of ways.

Institutionalize the program. An enhanced vocational education program is not just a "special project" targeted to a few students for a short period of time nor an adjunct or add-on that can be cut if the budget gets tight. Such a comprehensive program cannot live or die on "soft" grant money. Rather, it must become a basic part of the regular district program with funding for adequate facilities, staff, and the necessary educational support system.

Set high selection standards for staff working in the program. A maxim that should guide district policymakers is that "people make the program." Therefore, school administrators should:

- employ the most competent and caring people to staff programs that target diverse student populations;
- avoid turning these programs into dumping grounds for "surplus" or incompetent teachers;
- avoid assigning teachers to these programs against their will;
- use staff who volunteer and who are fully informed about the program, are screened on a variety of factors, and then given intense staff development training and support.

It takes a special kind of teacher and counselor to work with students with diverse backgrounds and learning problems. It also takes a special kind of principal to lead them. District administrators should be just as careful in choosing a principal or program director as in selecting other staff.

Ensure autonomy and shared decision-making at the local level. Day-by-day decisions about at-risk and disadvantaged students cannot be made long-distance in the district office. Flexibility and adaptation are key elements in successful programs for diverse student populations. Policymakers and administrators at the district level must be willing to defer to local staffs on issues of schedules, time requirements, class size, teaching approaches, and discipline. This means that school board policies must be waived at times when local staff feel that it would be in the best interests of students.

Instill a guiding vision for the school district. It is difficult for school boards and superintendents to lead unless they convince their followers that they know where they are going. School leaders at the district level must project a clear vision of the importance of an enhanced vocational education program to the students, their parents, and the community, and then communicate this belief to the entire district staff. Such a vision energizes the staff and unites the entire district in a common cause.

Program Location and Organization

The physical arrangement can affect how students are brought into contact with and are able to succeed in the curriculum. However, the range, intensity, and quality of services and the characteristics of the people providing those services are more important to student success than physical arrangements. Therefore, a variety of organizational arrangements can be utilized to accommodate an enhanced curriculum, including the following:

Transitional Support Program. A transitional support program can be set up in any location—the home high school, a vocational-technical center, or a separate facility (for example, a business or industry)—to help students graduate, get an equivalency certificate, or get a job. This program provides a multitude of special services to enhance student success in academics, occupational training, job preparation, or personal/social development. Services take place in regular classrooms, labs, shops, special classrooms in school or in the community, or other special arrangements. Services may be scheduled or provided as needed.

Alternative School. An alternative school is a facility separate from the home high school and vocational-technical center where students receive academic instruction and other special support services. Ordinarily, they are transported to a vocational-technical center or other facility for occupational training, although they may receive this training at the alternative school if programs are available (for example, if it is located at a community college).

School-Within-A-School. A school-within-a-school is just what it sounds like—a smaller school on a high school or vocational-technical center campus where a select group of students have a block schedule for core academic and occupational instruction and usually remain with the same group of teachers for the duration of their program. Students can be mainstreamed for electives and other school activities. They also receive a range of support activities including counseling, job training, and personal/social development not available to students in the larger school setting.

Obviously, some arrangements make it easier than others to provide students with a wide range of services, monitor their progress, and make adjustments when needed. Each arrangement has its own advantages and disadvantages, and a choice of a particular one is determined by consideration of facilities, staff, funding, student population, and other factors.

Recruitment, Selection, and Orientation of Students

Vocational educators are finding it necessary to actively recruit more and more students with diverse backgrounds who ordinarily might not choose a vocational education career path. This often requires program officials to waive established standards for admittance to vocational programs that would exclude many at-risk students and deny them important services. The best way to refute criticisms of a policy that makes exceptions to entrance requirements for needy students is to maintain high exit requirements for these students and provide the kind of instructional support to see that they succeed.

The following steps provide a basic process for identifying, recruiting, assessing, and prescribing program elements for at-risk students that go beyond the normal enrollment process in most vocational education programs.

Identification. Usually, students are referred or recommended on the basis of stated criteria. Referrals are made by teachers, counselors, students themselves, administrators, other school staff, or parents. Students are often identified by use of a locally developed screening instrument. However, a standardized one such as the Dropout Prediction Scale developed by Weber (1988) is useful.

Sometimes students are assigned to special programs by administrators as an alternative to suspension or expulsion from school. However, administrators should avoid making this program a "dumping ground" for students who are unwanted in the regular high school. Students have greater success if they volunteer for a program and if the program matches their interests and aptitudes.

Recruitment. Recruitment is the step where the school searches for students or responds to referrals. This may be done through meetings, printed materials, and one-on-one interviews. Recruiters explain the program carefully to students, show its advantages and expectations, and begin to deter-

mine if there is a fit between the student and the program. Often, parents are involved at this point.

Assessment. Assessment of a student's academic and vocational achievement levels, aptitudes, and interests may take place prior to referral, during recruitment, and afterwards in the placement process. Assessment is essential for designing programs, placing the student in learning situations, selecting support services, and as a baseline for continued evaluation of student progress. Information should be collected from a variety of sources, followed by a one-on-one interview by a trained professional.

Placement. The placement decision is based on answers to two questions: (1) Does the program match the student's needs so he or she has a good chance to be successful? (2) Does the student match the program's offerings? The key to proper placement is accurate assessment of student interests, abilities, and motivational level and an effective match to the programs goals and activities.

Orientation. Once students are accepted into the program, they (and their parents in many cases) are given detailed explanations of the curriculum, instructional techniques, support services, student and parental expectations, and expected outcomes of the program.

Monitoring and follow-up. The collection and use of student information does not end when the student enters the program. With at-risk students, it is vital to continue to monitor their progress and adjust the program when necessary.

Staff Selection and Development

If the curriculum is the heart of an enhanced vocational education program, the faculty and staff are its lifeblood. Success in any program is determined by the quality of the people who run it. Programs for at-risk students are labor-intensive and require more hours of one-on-one contact between students and staff. Therefore, the number of people needed to operate an enhanced vocational education program will, of necessity, be higher than for a traditional program. Sometimes tasks can be accomplished by mentors, tutors, students, parents, other volunteers, and paraprofessionals. However, an enhanced vocational education program cannot be operated by assigning extra duties to staff members who are expected to continue with business as usual. The number of extra staff will depend on the size of the special student population and types of services to be offered. At a minimum, it is essential to hire someone to coordinate special services and volunteers as well as additional special teachers and counselors to work with the existing staff.

Not everyone is prepared for the great demands of an enhanced vocational education program such as working with at-risk students, working cooperatively with others, and working in flexible arrangements. Programs will have a greater chance of success if staff members possess, in addition to general academic and cultural competency, the following knowledge, understandings, skills, and attitudes:

- knowledge and skills in the areas of employability skills, life-development skills, and lifelong learning skills;
- instructional strategies appropriate for working with at-risk students including individualized instruction, computer-assisted instruction, cooperative learning, and experiential learning;
- ability to work with diverse groups of students including those with learning handicaps as well as those in academic tracks;
- bilingual ability (in programs with limited English proficient students);
- counseling, interpersonal, and student management skills;
- ability to work in teams;
- knowledge about community resources;
- ability to work well with culturally diverse students.

These characteristics and skills can serve as the criteria for selecting new staff for the program as well as planning continuing staff development activities which include: (1) orientation to the overall program and regular updates on the program's progress; (2) preimplementation training for staff as determined by a needs assessment of their skills; and (3) continuing staff development on all aspects of needs with the staff involved in planning.

How The School District of Pittsburgh Has Institutionalized EVE Elements

The School District of Pittsburgh, Pennsylvania, has developed a comprehensive set of curriculum offerings and a support system that illustrates the essential elements of EVE. Schooling is career based rather than subject based, and the program permits students to acquire theory and apply it in practical circumstances while preparing for entry into the work force or postsecondary education. Pittsburgh has received state and national recognition and awards for effectiveness and innovation in dropout prevention.

Pittsburgh's efforts are coordinated through the Student Placement Section of the Division of Applied Technology and Career Development which is responsible for the career development and employment of approximately 5,000 students a year. Seventy-five percent of these students are considered seriously "at risk" of dropping out of school and about 15% suffer a variety of disabilities. The curriculum emphasizes career development and employability skills, and the support system ranges from providing academic remediation to employment opportunities at a sophisticated level. About 800 private and public companies and organizations are involved.

Approximately 86% of students served in these dropout prevention programs are actively enrolled in school. The cumulative retention rate for the school district population, including students at risk, is approximately 78%. The following two examples demonstrate the diversity of students served by these programs. In cooperation with the Pittsburgh Division of Exceptional Children, a large number of special needs youth are supported in mainstream technological programs so they will remain in school and gain a marketable skill. Students classified as educable mentally disabled, physically disabled, and socially/emotionally disturbed are prepared for both sheltered and competitive employment. Usually, the majority of female students enroll in home economics and business courses while the majority of male students enter trade and industry courses. Pittsburgh makes a concerted effort to encourage students to enter technological programs which they traditionally avoid and assists them in these programs, including organization of peer support groups. The program also offers job preparation and on-the-job support for graduates entering the paid work force.

Applied academics, vocational-technical education, employability skills, and life-development skills are provided in a variety of ways. Many activities are designed to integrate academic and technical experiences using cooperative learning and team teaching. For example, one activity required students to measure the halls of a triangular-shaped school building with a laser. During science class, students set up the laser; in electronics class, they monitored the laser beam with a dual trace oscilloscope; in math class, they computed the laser-measured distance around the hall; in drafting class, they verified the results by physically measuring the halls and drawing the floor plan on a CAD system; and in the English class, they wrote a report using computer word processing.

Another activity was designed to help students learn about the legal ramifications related to careers. Students in a small engine repair class, with the help of a technology teacher and a social studies teacher, learned about laws regulating the outdoor power equipment industry by participating in a mock trial.

Throughout these and many other such activities, students not only learn academic content and technical skills, but also develop prework skills, self-esteem, and higher-order thinking skills. This is a good illustration about how students can learn curriculum content in several different "subjects" in the same activity; it is not necessary to break the curriculum into isolated "subject areas" and teach it in traditional 50-minute periods at the same time every day.

The technique of team teaching can be expanded to include volunteers and paraprofessionals. Pittsburgh has an extensive program of tutors and mentors, both in school and out of school, who help students with issues relating to school, employment, interpersonal relations, and homework assignments. Business mentors employ many students in local retail establishments. This helps students earn supplemental income while learning about work and specific job requirements. In many cases, school staff serve the role of mentor/tutor to provide remediation in academic/technical areas and to help students with personal and career choice issues.

One of the key principles of EVE is flexibility in how students are brought into contact with the curriculum. Pittsburgh applies this principle effectively in scheduling for both the time and place of educational experiences. In addition to the many opportunities for work-study and cooperative programs, students participate in after school seminars on alcohol and drug abuse, parenting, interview techniques, and sex-related diseases. These seminars are held in collaboration with community agencies, and students work for gift certificates given for attendance, punctuality, social skills, and other requirements.

Pittsburgh also has a wide range of summer school programs. A summer academy helps potential ninth grade retainees receive special academic help plus a daily stipend for attendance and cooperation. These students also receive summer youth program placement upon successful completion of the summer program. Some mentoring relationships are continued from the regular school year into summer school, with students working in a business setting with a mentor for part of the week and receiving remedial instruction for the remainder of the time.

A number of organizational arrangements are used to provide students with alternative routes to completing the curriculum and staying in school through graduation. A business and finance academy is a school-within-a-school where students study academic content in conjunction with career preparation. Curriculum offerings are integrated and team teaching is used. Another form of the school-within-a-school model is used in a "second chance" program for ninth grade students who are in danger of failing. Students are placed in a self-contained classroom and given intense instruction in four academic subjects. They are given a daily stipend for participation in the project as well as the promise of a summer job. Other alternative approaches include letting qualified students take courses at local community colleges and the Select Employment Trainee Program which uses a "whatever-it-takes" approach to provide students at risk the necessary support to stay in school and learn.

A key aspect of the Pittsburgh effort combines parent involvement, outreach, and community collaboration to help students. A variety of activities are designed to provide students who are parents and prospective parents with instruction in child care and development, nutrition, budgeting and consumer skills, and preventive health care measures. Many of these programs are held in the evenings at community centers and in conjunction with organizations such as the Urban League. Some students who have suspended their public school careers before graduation are also provided an opportunity to attend a community center and receive training in vocational education, English as a Second Language, evening programs leading to a high school diploma, GED preparation and testing, and a variety of JTPA programs.

It is not possible to describe here all the efforts to help students at risk in the School District of Pittsburgh. Enough examples have been presented, however, to show the success Pittsburgh has had applying the concepts of Enhanced Vocational Education. Examples of how these concepts were implemented in a dozen other locations around the country are described in *Vocational Education for the 21st Century* (Hamby, 1992), which formed the basis for much of this report.

Conclusion

Enhanced Vocational Education is a new breed of vocational education—dynamic, vibrant, exciting. It is vocational education that has heard the cries for reform and felt the pressures of a changing world economy. It is vocational education that not only has moved into the mainstream of education; it is on the cutting edge in serving those students who traditionally have been turned off by education and alienated from school. This is vocational education at its best. This is vocational education for now and the future.

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Dr. Fred A. Monaco is presently the Director of Applied Technology and Career Development, Pittsburgh Public Schools. He is responsible for all vocational/technical, JTPA, and district-wide dropout preventative programs.

The National Dropout Prevention Center (NDPC) is a partnership of concerned leaders—representing business, educational and policy interests, and Clemson University—created to significantly reduce America's dropout rate. NDPC is committed to meeting the needs of youth in at-risk situations by helping to shape school environments which ensure that all youth receive the quality education to which they are entitled. NDPC provides technical assistance to develop, demonstrate, and evaluate dropout prevention efforts; conducts action research; and collects, analyzes, and disseminates information about efforts to improve the schooling process.